

## SEQUENCE LISTING

<110> Salceda, Susan  
Sun, Yongming  
Recipon, Herve

<120> A Novel Method of Diagnosing, Monitoring, Staging,  
Imaging and Treating Breast Cancer

<130> DEX-0085

<140> 09/664,249  
<141> 2000-09-18

<150> PCT/US99/16811  
<151> 1999-07-22

<150> 60/095,232  
<151> 1998-08-04

<160> 10

<170> PatentIn Ver. 2.1

<210> 1  
<211> 544  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> (505)..(506)  
<223> a, c, g or t

<220>  
<221> unsure  
<222> (510)  
<223> a, c, g, or t

<220>  
<221> unsure  
<222> (521)  
<223> a, c, g or t

<220>  
<221> unsure  
<222> (527)..(528) !  
<223> a, c, g, or t

<220>  
<221> unsure  
<222> (531)  
<223> a, c, g or t

<220>

<221> unsure  
 <222> (534)..(535)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (540)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (541)  
 <223> a, c, g or t

<400> 1  
 ctagtctcga gtctagagcg ccttgccctt tcttaggctt tgaagcattt ttgtctgtgc 60  
 tccctgatct tcatgtcacc accatgaagt tcttagcagt cctgggtactc ttgggagttt 120  
 ccactctttct ggtctctgcc cagaatccga caacagctgc tccagctgac acgtatccag 180  
 ctactgggtcc tgctgatgat gaagccctg atgctgaaac cactgctgct gcaaccactg 240  
 cgaccactgc tgctcctacc actgcaacca ccgctgcttc taccactgct cgtaaagaca 300  
 ttccagtttt acccaaattg gttggggatc tcccgaatgg tagagtgtgt ccctgagatg 360  
 gaatcagctt gagtcttctg caattgggtc caactattca tgcttctctg gatttcattc 420  
 aactacttac cttgcctacg atatccctt tatctctaata cagtttattt tctttcaaat 480  
 aaaaaataac tatgagcaac taaannnaan aaaaaaaaaa naaaaannaa naannaaan 540  
 naga 544

<210> 2  
 <211> 1066  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (729)..(813)  
 <223> a, c, g or t

<400> 2  
 gttgaccagt ggtcatgccg ctgcctgttg atttggtgaa aatattgttt acacgtatgt 60  
 tcttggtact gattgtcaga aagctgggtt tgagactgca gcttgacta aattcagtc 120  
 tctggctgtc tggggaagca tgctgaccag tctgggtgtc tttggcatct actcagccat 180  
 ctggtccacc attctcattg ccccaaatat gagaggacag aagaatggta ccggtactgc 240  
 caatggagat ggaggaagga gacagaaaga aacagagccc agaccctagg gaccaccagc 300  
 atttgcagaa tggataaaca gccttcttcc taacaaagga agcacagcaa ctgtgatcct 360  
 gagctgtgca cacttctggt tgggattatt tctggtttct acttctctgt tgaagatgtg 420  
 gcatggagag tgaacaagct gctgcccacc acctggcatc acagccccag aactcagcta 480  
 tttccatggg accacagcat ctcatctctg ggctgagcca gaaagacccc tactgaagtc 540  
 cagaggcact tttctgaaag gctctgcttt gacctgaagt attttatcta tctcagtcct 600  
 caggacactg ttgatggaat taaggccaag cacatctgca aaaaagacat tgctggagga 660  
 ggtgcaaaga gctggaaacc aagtctccag tcttgggaaa agcagtggta tggaaaagca 720  
 atggaaagnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 780  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 840  
 gttgaaggaa gactccatct gatgactcag agcaagtatt ttttagtgtg ttattgttat 900  
 tagcagaaaag agggccataa aatacatggg gcaagctgaa tatatcttag gcaaaagaag 960  
 aaaatattca aattcttatg ttattttatc taattatttt atctcttttt gtgtgtgact 1020

tataatgtgt gtattgtatt aataaaagta tataaacatg tagttt

1066

<210> 3

<211> 4197

<212> DNA

<213> Homo sapiens

<400> 3

```

ggcaccgagac aactcatgct aggaggccag tcctagcatc accttatgtt gaaaatctta 60
ccaatagtct gtgtcaacag aatacttatt ttagaagaaa aattcatgat ttcttcctga 120
agcctacaga cataaaataa cagtgtgaag aattacttgt tcacgaattg cataaagctg 180
cacaggattc ccattctacc tgatgatgca gcagacatca ttcaatccaa ccagaatctc 240
gctctgtcac tcaggctgga gtgcagtggc gcaatctcgg ctcaactgcaa actctgcctc 300
ccaggttcac gccattctcc tgccacagcc tcccagtag ctgggactac aggcgcctgc 360
caccaagcac agctaagttt tttatttata gttagagacg ggtttctactg tgttagccag 420
gatggtctcg atctcctgac ctctgtgatc gcctgcctcg gcctcccaa gtgccgggat 480
tacaggcgtg agccaccgag ccgggcctga tttcagtttc ttccagccct tcctattgtt 540
aacatggggg ttgtgttgaa gaatataaag ttacaaagtc aaggaagtag gaaacatttt 600
tacaagtatt atgtagccat ctggtgggg ctggtgtgag gtaggctgca aatgattctc 660
ctatttcttt ccctgagttc agaacatagg aattagattg atagacatca acataccgcg 720
tttattgtcg actcatgaca actaatggga agacatggct cagatgtgca gccacagtga 780
gcttctgaac atttcttctc agactaagct cttacacaca gttgcagttg aaagaaagaa 840
ttgcttgaca tggccacagg agcaggcagc ttctgcaga catgacagtc aacgcaaact 900
catgtcactg tgggcagaca catgtttgca aagagactca gagccaaaca agcactca 960
atgtgctttg cccaaattta cccattaggt aaatcttccc tctcccag aagaaagtgg 1020
agagagcatg agtcctcaca tggaaacttg aagtcaggga aatgaaggct caccaattat 1080
ttgtgcatgg gtttaagttt tcttgaaat taagttcagg tttgtctttg tgtgtaccaa 1140
ttaatgacaa gaggttagat agaagtatgc tagatggcaa agagaaatat gttttgtgtc 1200
ttcaattttg ctaaaaataa cccagaacat ggataattca tttattaatt gatttttgta 1260
agccaaagtcc tatttgga aaattaatat tttttctaaa aaagaatttt ctcaatatca 1320
cctggcatga taacattttt ctctctcgag ttccttttcc tggagtttaa caaacttggt 1380
ctttacaaat agattatatt gactacctct cactgatgtt atgatattag tttctattgc 1440
ttactttgta tttctaattt taggattcac aatttagctg gagaactatt ttttaacctg 1500
ttgcacctaa acatgattga gctagaagac agttttacca tatgcatgca ttttctctga 1560
gttatatttt aaaatctata ctttctcct aaatatggag gaaatcactg gcatcaaatg 1620
ccagtctcag acggaagacc taaagcccat ttctggcctg gagctacttg gctttgtgac 1680
ctatggtgag gcataagtgc tctgagtttg tgttgccctt tttgtaaaat gagggtttga 1740
cttaatcagt gattttcata gcttaaaatt tttttgaaga acagaacttt ttttaaaaac 1800
agttagatgc aaccatatta tataaacag aacagataca agtagagcta acttgctaaa 1860
gaaaggatgg aggctctgaa gctgtgactt cattatccct taatactgct atgtcctctg 1920
tagtacctta gatttctatg ggacatcggt taaaaactat tgtttatgag agagccttgc 1980
taatttctta aaaattgtgg atacattttt tctcccatgt ataattttct caccttctat 2040
ttaaaaagaa aaaaaagtc agtgtagtat ttacatattt taccctataa ggagctaaca 2100
taacttttga tttagtgtta ttcataaaat taggttagca gtttattaac cttttgtatt 2160
tgctctggca atgtttaata tctcataagc tatacacacc tcgaagccat caatgacaac 2220
cttttcttgc tgaatagaac agtgattgat gtcatgaaga caattttatc tccttttgcc 2280
ttccataatt tgtaccaggt tatataatag tataacactg ccaaggagcg gattatctca 2340
tcttcactct gtaattccag tgtttgtcac gtggtgtgtg aataaatgaa taaagaatga 2400
gaaaaccaga agctctgata cataatcata atgataatta tttcaatgca caactacggg 2460
tgggtgctgaa ctagaatcta tttttctga aactggctcc tctaggatct actaatgatt 2520
taaactctaaa agatgaagtt agtaaagcat cagaaaaaaa aggtaaacaa attgctcctg 2580
tggagatgat tggcatcaca tgggtgtttg agctgataca cccaacactt gagctcactg 2640
caacagtacc agattttcac cgctatgcct ctttctactc tgggagtcct ccagaggtct 2700
tgcactcggg agagcatgct caggtttccc cagctctaca aaatcaccca gaatgcaaaa 2760

```

gacttcaaca caagggtaaa taagggtgat ctacagaattg tcacctcaaa aaggccctgc 2820  
 cttccactgt tcagttcttg tcatctgcct atgagatctc tgaagcttga aagagaacac 2880  
 ttgaaaatca ctgagaccgt gactcccac cagcacaca cagcaagcca aagtccacac 2940  
 catggaaacc gattcctcat cttttaagaa taccatatgg atacttatat ataggcatga 3000  
 attaaagcaac taggcctttc aacagttttg gagaaggcca tttccactt ttaaaataaa 3060  
 taatgctcct ataagatcag atactgtgtt gaccagtggg catgccactg cctgttgatt 3120  
 tgttgaaaat attgtttaca cgtatgttct tgttactgat tgtcagaaag ctggttttga 3180  
 gactgcagct tggactaaat tcagtcactt ggctgtctgg ggaagcatgc tgaccagtct 3240  
 ggtgttcttt ggcatctact cagccatctg gtccaccatt ctcatgccc caaatatgag 3300  
 aggacagatt aacaatggta ccagcacgtg cagaaaagaa agagtctccg cttgtctttg 3360  
 tctgattctc ctgtcctctc catggaagtt acattttctg taaaggatga gctgaaaatt 3420  
 ctccctggcg ttgccagttg aacttctgct gtgctctggg aaggcattct cactctgttt 3480  
 atgttgtcta agtgcagaca tggatgtgca ggtttgctag aacctcctga ggatgtgcaa 3540  
 tggttctggt catgcctgaa tcagttcttt tgggagtggg cattctttct ctccctcatg 3600  
 cacagcctca ggcacatggc ttgagctatg gcggcacgca gtatggccat caccaggtga 3660  
 cacccttccc ctaagaagag gctcttcagg ttacactcgg gtactgttgt tatctggctt 3720  
 attgtccata ggatcaacat agagtccctga ggtcagttca aaccatcaaa ccagggatgt 3780  
 tacttattat ttgaaaactt ctttggaag ataactcttg gttgttcagt gggaccagtc 3840  
 tttgacgggc aaatctccag aatacatggg gtcagttctc tcaggttcag gaagcatgta 3900  
 atctctctaa gattcattaa ttaaaaaaaa aagacacatg catagaaaaa tagaacaaaa 3960  
 tggaaactct ttattggata cctactatgg gttatgtgcc agggtttctt aatcatttgg 4020  
 ggacatgtgt gtataaacia aaccaggcta tgtggccagg cagtgtgtgg ctcacacctg 4080  
 taatccagct gcttagggaa gccaaagttgc aaggatcgct tgaaaccagg agttcgagac 4140  
 tagcctgggc aacatagtga gaccgggtct ctgcaaaaaa aaaaaaaa aaaaaa 4197

<210> 4

<211> 1560

<212> DNA

<213> Homo sapiens

<400> 4

agctcaatac ggaacatatt ctacgtcctc ctctggtcta caaagcctgt gatttcttgt 60  
 ctatggacag aacgtctggg ttaactctaca ggaaccata acttcctgaa gctttatgct 120  
 taacagtga cagctgagtc agttgaattt tattgtgttt cagtcctgag agtattagct 180  
 acagaaacct ttccattgcc atactgagaa actggcagca ggcagtgtgc ctacaggctc 240  
 acaaagaaac ttcagatcat cttcttgagg gaaagaagct gaagtgtac ataagatgct 300  
 tgtgcttcat aactctcaga agctgcagat tctgtataaa tccttagaaa agagcatccc 360  
 tgaatccata aaggtatatg gcgccatttt caacataaaa gataaaaacc ctttcaacat 420  
 ggagtgctg gtagatgcct ggccagatta ccagatcgct attaccggc ctcaaaaaca 480  
 ggagatgaaa gatgaccagg atcattatac caacacttac cacatcttca ccaaagctcc 540  
 tgacaaatta gaggaagtc tgtcatatc caatgtaatc agctgggagc aaactttgca 600  
 gatccaaggt tgccaagagg gcttggatga agcaataaga aaggttgcaa cttcaaaatc 660  
 agtgcaggta gattacatga aaaccatcct ctttataccg gaattacca agaaacacaa 720  
 gacctcaagt aatgacaaga tggagttatt tgaagtggat gatgataaca aggaaggaaa 780  
 cttttcaaac atgttcttag atgcttcaca tgcaggctct gtgaatgaac actgggcctt 840  
 tgggaaaaat gagaggagct tgaaatatat tgaacgctgc ctccaggatt ttctaggatt 900  
 tgggtgtgctg ggtccagagg gccagcttgt ctcttggtat gtgatggaac agtccctgtg 960  
 gttgagaatg ggttatactg tccccaaata cagacaccaa ggcaacatgt tgcaaatgtg 1020  
 ttatcatctt gaaaagtatc tttctcagaa agaaatccca ttttatttcc atgtggcaga 1080  
 taataatgag aaaagcctac aggcactgaa caatttgggg tttaagattt gtccttggg 1140  
 ctggcatcag tggaaatgca cccccaagaa atattgttga ttgattccac tgtccatttc 1200  
 aaatctttct tatcagtaaa aaaacattaa ttcaaacaca agcattgtga tctacattag 1260  
 cacaaaatgc aactgattat ctaggatctg tgtattactt aagctcacc ttaacagttt 1320  
 taccttccct ctccctctga ttcttacaga aaattagaag ctcaatttta tggctctata 1380

atttccttta tgacagacat ctcagaatta aaatcaccca aagccaatca ttagtgccaa 1440  
 gataaccctt taacgggcaa cactttctta aatgaagact atttccttca tgaaaaaatt 1500  
 cacttttatg actttcttgt taaaataaaa agtctgcttt taaaaaaaaa aaaaaaaaaa 1560

<210> 5  
 <211> 1227  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (327)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (352)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (369)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (850)..(880)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (1220)  
 <223> a, c, g or t

<400> 5  
 attttgtagt tcagcaaata ctccaaatac acagcatggt acaaggcact ggtggcacag 60  
 ggcacaacag gaaatgatat ttatttagca aattcattta acaaataatta ttgggcacct 120  
 gttatgtgag acactgtcct aggcactgtg ggataacaac agcaaacact tcacacaaca 180  
 gcttggcctt cctgtgtttt acaacagctc cttaaagatag ctgatataca gacatttgag 240  
 ggacacagtt catgtagaat caaaatatta gtatttcaga ataaggattt tttttctgaa 300  
 aagcatacag agaggaaaca gcttaanaat aggtcaagac ctaaaaacag antataatca 360  
 cggaataanc tggataaacc agacagtccc cacagaattt ctttcaggtc acagatttct 420  
 taaaactcac ccccaaaatg tgctgtcttg gttgtttgaa tcttgcataa ttaatgtcac 480  
 aggcgcaagc cgctgaactt agttgagatg cagaaaacaa acaaatgcaa tgacatatct 540  
 gagaagcatt tatgtaactc cgggttaagt gtgaggaggg gtgtgtgaag acagtgtgca 600  
 tgcattgagt tgtattcata tatatgtgta tacatatgaa tttcactgtt attttccagg 660  
 gtctatggac aatgtggcag taagagtcta tgatgttctg aaacttttca cagttaaattcc 720  
 aaagattaca gaccttaca ggtgcttgca ttctgttgct tttccatctg tcactttctca 780  
 gggtatttga ctgtgttcaa accttctttt ctttttcatt gagtttcatt ttttaagctt 840  
 gttaaatgcn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn tgtcattttt cacattatcc 900  
 tctcttctct gcaacaagga tagtaagatg tagatgaatg caaaaataat aacaacaata 960  
 aggaaatata ttaaagcttt aaaatatgca catatgtagt tctaaagagc aataacggta 1020  
 gtatctattt cgaacatgca ttaggcaaaa aagaaatcaa aactgaaatt ttcgtgtatt 1080  
 tttcccttgc taagatgttc aaatgctaac ttcattttct cttttcctct atgtggcact 1140

ttctcaaaat atctatgaaa tactttttaga caaagattga gctggagaaa gagatacaaa 1200  
 tttccatccc cccagacagn gagacat 1227

<210> 6  
 <211> 253  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (181)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (201)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (205)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (238)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (241)..(242)  
 <223> a, c, g or t

<220>  
 <221> unsure  
 <222> (250)  
 <223> a, c, g or t

<400> 6  
 gaacagcctc acttgtgttg ctgtcagtg cagtagggca ggcaggaatg cagcagagag 60  
 gactcgccat cgtggccttg gctgtctgtg cggccctaca tgcctcagaa gccatacttc 120  
 ccattgcctc cagctgttgc acggagggtt cacatcatat ttccagaagg ctcttggaag 180  
 nagtgaatat gtgtcgcac naganagctg atggggattg tgacttggct gctgtcancc 240  
 nncatgtcan gcg 253

<210> 7  
 <211> 943  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (128)

<223> a, c, g or t

<220>

<221> unsure

<222> (130)

<223> a, c, g or t

<220>

<221> unsure

<222> (935)

<223> a, c, g or t

<400> 7

gggggcctgg	ccccggcccc	tgtgaggacc	ccgcgggtgc	tggggtaaga	ggctctagac	60
ccttcacctg	tcagtcacct	gagggaggct	gaggccaagc	cccatccctc	agaatcaagg	120
cttgcaancn	cccctcacct	gcccagttct	tgtccacacc	cctcgggctg	aagacggccc	180
tgaccaggcc	ctgggcctca	gcgaccaccc	ctccccctcc	tgcttgacc	cagggagcag	240
gtgcaggggg	ctccgagccc	ctgggtgactg	tcaccgtgca	gtgcgccttc	acagtggccc	300
tgagggcacg	aagaggagcc	gacctgtcca	gcctgcgggc	actgctgggc	caagccctcc	360
ctcaccaggc	ccagcttggg	caactcaggt	gggccagaaa	gcccccggtg	gctgcggtgg	420
agctgggcac	cgccccgact	gaggcagctg	ctggaagagg	gggtggcaga	ggtcactgcc	480
ctccctgcag	gccccaccca	ggaggccccc	tctgaggaat	ctctttgcag	ttacctagcc	540
ccaggtgagg	acggggcactg	ggtcccatc	cccaggagg	agtcgctgca	gagggcctgg	600
caggacgcag	ctgcctgccc	cagggggctg	cagctgcagt	gcaggggagc	cgggggtcgg	660
cgggtcctct	accaggtggt	ggcccagcac	agctactccg	cccagggggc	agaggacctg	720
ggcttccgac	agggggacac	ggtggacgtc	ctgtgtgaag	tggaccaggc	atggctggag	780
ggccactgtg	acggccgcat	cggcatcttc	cccaagtgtc	tcgttggtccc	cgccggccct	840
cggatgtcag	gagcccccg	ccgcctgccc	cgatcccagc	agggagatca	gccctaata	900
tgctgtgtcc	atgatgcttt	taatnaaaaa	aacccccact	gca		943

<210> 8

<211> 249

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (110)

<223> a, c, g or t

<220>

<221> unsure

<222> (192)

<223> a, c, g or t

<220>

<221> unsure

<222> (205)

<223> a, c, g or t

<220>

<221> unsure

<222> (218)

<223> a, c, g or t

&lt;400&gt; 8

```

atcacattaa gtcattgcta attttataaa caaaaacaat ggttttantt tgcattctccc 60
tgattggtat tgctgtagaa catatttgga gaagtttggt tgtctttggn gtttatttca 120
tgaatagatt gtgtgccccat tttctcttgg ggtattcagt tttttattac tgatgtgagc 180
atgtgtatgg gngattattt gatgnntatc agttttgnnt agtagactgg caatatttag 240
tcttgctgt                                     249

```

&lt;210&gt; 9

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 9

```

gacgcccagt gacctgccga ggtcggcagc acagagctct ggagatgaag accctgttcc 60
tgggtgtcac gtcgggcctg gccgctgccc tgtccttcac cctggaggag gaggatatca 120
cagggacctg gtacgtgaag gccatggtgg tcgataagga cttccggag gacaggaggc 180
ccaggaaggt gtccccagtg aaggtgacag ccctgggcgg tgggaagttg gaagccacgt 240
tcaccttcat gagggaggat cgggtgcatcc agaagaaaat cctgatgcgg aagacggagg 300
agcctggcaa atacagcgcc tatgggggca ggaagctcat gtacctgcag gagctgcccc 360
ggagggacca ctacatcttt tactgcaaag accagcacca tgggggcctg ctccacatgg 420
gaaagcttgt gggtaggaat tctgatacca accgggaggc cctggaagaa tttaagaaat 480
tggtgcagcg caagggactc tcggaggagg acattttcac gcccctgcag acggggaagct 540
gcgttcccga acactaggca gcccccggt ctgcacctcc agagcccacc ctaccaccag 600
acacagagcc cggaccacct ggacctacc tccagccatg acccttcctt gctcccaccc 660
acctgactcc aaataaagtc cttctcccc                                     690

```

&lt;210&gt; 10

&lt;211&gt; 294

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 10

```

Met Leu Val Leu His Asn Ser Gln Lys Leu Gln Ile Leu Tyr Lys Ser
 1              5              10              15

```

```

Leu Glu Lys Ser Ile Pro Glu Ser Ile Lys Val Tyr Gly Ala Ile Phe
      20              25              30

```

```

Asn Ile Lys Asp Lys Asn Pro Phe Asn Met Glu Val Leu Val Asp Ala
    35              40              45

```

```

Trp Pro Asp Tyr Gln Ile Val Ile Thr Arg Pro Gln Lys Gln Glu Met
    50              55              60

```

```

Lys Asp Asp Gln Asp His Tyr Thr Asn Thr Tyr His Ile Phe Thr Lys
    65              70              75              80

```

```

Ala Pro Asp Lys Leu Glu Glu Val Leu Ser Tyr Ser Asn Val Ile Ser
      85              90              95

```

```

Trp Glu Gln Thr Leu Gln Ile Gln Gly Cys Gln Glu Gly Leu Asp Glu
    100            105            110

```



Ala Ile Arg Lys Val Ala Thr Ser Lys Ser Val Gln Val Asp Tyr Met  
 115 120 125  
 Lys Thr Ile Leu Phe Ile Pro Glu Leu Pro Lys Lys His Lys Thr Ser  
 130 135 140  
 Ser Asn Asp Lys Met Glu Leu Phe Glu Val Asp Asp Asp Asn Lys Glu  
 145 150 155 160  
 Gly Asn Phe Ser Asn Met Phe Leu Asp Ala Ser His Ala Gly Leu Val  
 165 170 175  
 Asn Glu His Trp Ala Phe Gly Lys Asn Glu Arg Ser Leu Lys Tyr Ile  
 180 185 190  
 Glu Arg Cys Leu Gln Asp Phe Leu Gly Phe Gly Val Leu Gly Pro Glu  
 195 200 205  
 Gly Gln Leu Val Ser Trp Ile Val Met Glu Gln Ser Cys Glu Leu Arg  
 210 215 220  
 Met Gly Tyr Thr Val Pro Lys Tyr Arg His Gln Gly Asn Met Leu Gln  
 225 230 235 240  
 Ile Gly Tyr His Leu Glu Lys Tyr Leu Ser Gln Lys Glu Ile Pro Phe  
 245 250 255  
 Tyr Phe His Val Ala Asp Asn Asn Glu Lys Ser Leu Gln Ala Leu Asn  
 260 265 270  
 Asn Leu Gly Phe Lys Ile Cys Pro Cys Gly Trp His Gln Trp Lys Cys  
 275 280 285  
 Thr Pro Lys Lys Tyr Cys  
 290